

CLAIMS

1. A fluid dynamic bearing apparatus comprising
a hydrodynamic groove region in which a plurality of
5 hydrodynamic grooves are arranged, a smooth surface
opposing the hydrodynamic groove region, and a bearing gap
which is formed between the hydrodynamic groove region and
the smooth surface and in which a fluid dynamic pressure
is produced by relative rotation of a fixed side and a
10 rotation side,

the smooth surface being defined by a step so
that its length becomes shorter than that of the
hydrodynamic groove region.

2. A fluid dynamic bearing apparatus according
15 to claim 1 which further comprises a bearing sleeve and a
shaft member, said bearing gap being formed between the
inner circumferential surface of the bearing sleeve and
the outer circumferential surface of the shaft member.

3. A fluid dynamic bearing apparatus according
20 to claim 2, wherein the shaft member is provided with a
flange portion overhanging to the outer diameter side and
said bearing gap is further formed between an end face of
the flange portion and a face opposing the end face.

4. A fluid dynamic bearing apparatus according
25 to claim 1, wherein the hydrodynamic groove region is

plastically processed by thrusting a pattern corresponding to its shape.

5. A motor having a fluid dynamic bearing apparatus according to any one of claims 1 to 4.